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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/031,695	01/23/2002	Bernhard Hauer	51241	8284

7590 10/06/2003  
Keil & Weinkauff  
1101 Connecticut Avenue NW  
Washington, DC 20036

EXAMINER
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PAK, YONG D

ART UNIT	PAPER NUMBER
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1652

DATE MAILED: 10/06/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n N .

10/031,695

Applicant(s)

HAUER ET AL.

Examiner

Yong D Pak

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-- The MAILING DATE of this communication appears n the c ver sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 18 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 1-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 12-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 January 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This application is a 371 of PCT/EP00/07252.

The preliminary amendment filed on January 23, 2003, amending claims 7, 12, 14 and 16, has been entered.

Claims 1-17 are pending.

### ***Election/Restrictions***

Applicant's election with traverse of Group III in Paper No. 8 is acknowledged. The traversal is on the ground(s) that unity of invention is present because claims 3-6 define a contribution over the prior art. Further, that the invention taken as a whole demonstrate that a special technical relation is present. The examiner disagrees. If "an independent claim does not avoid the prior art, then the question whether there is still an inventive link between all the claims dependent on that claim needs to be carefully considered" (see Annex B, part (c) of the PCT Administrative Instructions). There is no link between the dependent claims and the method of Group III.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-11 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 8.

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Information Disclosure Statement***

The entry that is lined through on PTO form 1449 filed on May 24, 2002 fails to comply with the provisions of 37 CFR 1.97, 1.98 and MPEP § 609 because the reference of Bornscheuer et al. does not have a concise explanation of relevance in English. They have been placed in the application file, but the information referred to therein has not been considered as to the merits with the following exception.

***Claim Objections***

Claim 12 is objected to as being dependent upon a non-elected base claim, and should be rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 12 has been interpreted to include all the limitations of its base claim.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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Claims 14-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 14-15, without the recitation of a sequence identifier, "F87V" has no clear meaning. To overcome this rejection, the claims can be amended to include a sequence identifier.

The mutants of claims 14-15 have been interpreted as being derived from a *Bacillus megaterium* cytochrome P450 monooxygenase.

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 12-13 and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Oliver et al.

The instant claims are drawn to a method for producing terminally or subterminally hydroxylated aliphatic carboxylic acids with a mutant cytochrome P450 monooxygenase.

Oliver et al. (form PTO-1449) teach a method for producing subterminally hydroxylated lauric acid (abstract and pages 1568). Oliver et al. teach a *Bacillus megaterium* cytochrome P450 BM3 having an alanine residue at position 87, wherein the mutant enzyme shows an altered substrate profile (page 1567). Hydroxylation was carried out by expressing the mutant cytochrome P450 BM3 in the presence of a

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reductant recited in claim 17. Therefore, the teachings of Oliver et al. anticipate claims 12-13 and 15-17.

Claims 12-14 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Graham-Lorence et al.

The instant claims are drawn to a method for producing terminally or subterminally hydroxylated aliphatic carboxylic acids with a mutant cytochrome P450 monooxygenase.

Graham-Lorence et al. (form PTO-1449) teach a method for producing subterminally or terminally hydroxylated aliphatic carboxylic acids (abstract and pages 1129). Graham-Lorence et al. teach a *Bacillus megaterium* cytochrome P450 BM3 having a valine residue at position 87, wherein the mutant enzyme shows an altered substrate profile (abstract). Hydroxylation was carried out by expressing the mutant cytochrome P450 BM3 in the presence of a reductant recited in claim 17. Therefore, the teachings of Oliver et al. anticipate claims 12-14 and 16-17.

No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yong Pak whose telephone number is 703-308-9363. The examiner can normally be reached 6:30 A.M. to 5:00 P.M. Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ponnathapu Achutamurthy can be reached on 703-308-3804. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and 703-872-9307 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

Yong D. Pak  
Patent Examiner

September 30, 2003

A handwritten signature in black ink, appearing to read 'Ach' with a stylized flourish.

PONNATHAPU ACHUTAMURTHY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600